

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)	
)	
Expanding Flexible Use in Mid-Band Spectrum)	GN Docket No. 17-183
Between 3.7 and 24 GHz)	

**REPLY COMMENTS OF THE
TELECOMMUNICATIONS INDUSTRY ASSOCIATION**

The Telecommunications Industry Association (“TIA”)¹ hereby files these reply comments in response to the Notice of Inquiry (“NOI”)² in the above-captioned proceeding. TIA urges the Commission to evaluate the lower 6 GHz band for potential unlicensed use while protecting incumbents. The Commission should also carefully consider various approaches to the 3.7-4.2 GHz band, including market-based mechanisms such as the proposal from Intel and Intelsat in their Joint Comments.

I. The Commission Should Evaluate Opening the Lower 6 GHz Band for Unlicensed Use.

There is support across a wide variety of industry sectors for evaluating the lower 6 GHz band (5.925-6.245 GHz) for potential unlicensed use, but also a strong recognition that appropriate safeguards are required before allowing such use. For example, the Satellite Industry Association believes that sharing of the C-band uplink spectrum from 5.925-6.425 GHz may hold some promise for terrestrial sharing, while expressing concerns about aggregate interference

¹ TIA is the leading trade association for the information and communications technology (“ICT”) industry, representing companies that manufacture or supply the products and services used in global communications across all technology platforms. TIA represents its members on policy issues affecting the ICT industry and forges consensus on industry standards.

² [Notice of Inquiry](#), *Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz*, FCC 17-104, GN Docket No. 17-183 (Aug. 3, 2017) (“NOI”).

to FSS systems and unlicensed device modification issues.³ A coalition representing terrestrial mobile broadband interests notes that the lower 6 GHz band is proximate to the existing unlicensed 5 GHz band, appears to be a strong candidate for global harmonization, and would be valuable to support next generation unlicensed use with wide channels and high throughput.⁴ The coalition further urges that introduction of any new services be subject to the requirement for a detailed engineering analysis and mitigation proposals.⁵

Ericsson supports unlicensed operations on a technology-neutral basis assuming that more fixed links can continue to be added.⁶ Nokia does not oppose considering the band, but points out that the lower 6 GHz band contains significant terrestrial fixed microwave services as well as FSS operations, and that rigorous engineering analysis would be required before introducing any new services.⁷ Verizon recognizes the proximity to the 5 GHz bands and therefore conditionally supports unlicensed access as long as adequate protections are provided to incumbent and future microwave deployments.⁸ T-Mobile agrees that unlicensed use is possible assuming there is a firm technical foundation for doing so.⁹

Meanwhile, Cisco states that proponents of adding unlicensed operations recognize their obligations to provide analysis and recommendations, and that all stakeholders (co-channel and

³ [Comments of the Satellite Industry Association](#), filed Oct. 2, 2017 in GN Docket No. 17-183, at 41-45.

⁴ [Comments of the Mid-Band Spectrum Coalition](#), filed Oct. 2, 2017 in GN Docket No. 17-183, at 14.

⁵ *Id.*

⁶ [Comments of Ericsson](#), filed Oct. 2, 2017 in GN Docket No. 17-183, at 9.

⁷ [Comments of Nokia](#), filed Oct. 2, 2017 in GN Docket No. 17-183, at 15-16.

⁸ [Comments of Verizon](#), filed Oct. 2, 2017 in GN Docket No. 17-183, at 21.

⁹ [Comments of T-Mobile USA, Inc.](#), filed Oct. 2, 2017 in GN Docket No. 17-183, at 17.

adjacent channel) must have a meaningful opportunity to review and comment on those analyses and recommendations.¹⁰ Qualcomm believes that unlicensed users in portions of the band could be regulated through limits on (for example) limits on antenna gain and conducted power, and urges the Commission to seek comment on a range of different options.¹¹ Intel suggests partitioning the rulemaking into indoor and outdoor components so as to allow unlicensed uses to begin more rapidly.¹² Microsoft is robustly supportive of unlicensed operations in the band.¹³ Motorola Solutions cites the importance of incumbent public safety fixed links and opposes Part 15 unlicensed use, but suggests using a spectrum access system (SAS) with general authorized access (GAA) to address interference concerns, similar to the 3.5 GHz band.¹⁴

Although different in the details, the record indicates a collective willingness on the part of industry to conduct and/or consider evaluations of the lower 6 GHz band for shared use. Against this backdrop, TIA encourages the Commission to proceed with identifying, collecting, and evaluating different methods for interference mitigation, including robust technical analyses, that would facilitate further progress.

II. Market-Based Approaches May Offer a Path Forward for the 3.7-4.2 GHz Band.

In our opening comments, TIA applauded the Commission for exploring market-based mechanisms to increase the efficiency of spectrum use, particularly in the context of consumer

¹⁰ [Comments of Cisco Systems, Inc.](#), filed Oct. 2, 2017 in GN Docket No. 17-183, at 2-3.

¹¹ [Comments of Qualcomm Incorporated](#), filed Oct. 2, 2017 in GN Docket No. 17-183, at 9.

¹² [Notice of Inquiry Comments of Intel Corporation](#), filed Oct. 2, 2017 in GN Docket No. 17-183, at 5-6.

¹³ [Comments of Microsoft](#), filed Oct. 2, 2017 in GN Docket No. 17-183, at 9-10.

¹⁴ [Comments of Motorola Solutions, Inc.](#), filed Oct. 2, 2017 in GN Docket No. 17-183, at 3-4.

services.¹⁵ The joint proposal of Intel and Intelsat for a market-driven, voluntary accommodation to “clear” portions of the 3.7-4.2 GHz band for terrestrial uses¹⁶ is a potentially promising attempt to devise such a mechanism. TIA’s members continue to evaluate the joint proposal with interest. However, to evaluate any proposal to introduce terrestrial wireless services into the band, it is critical that the Commission seek a robust record on current FSS use of the band and the practical details on how clearing and sharing proposals would work. TIA appreciates the efforts made by Intel and Intelsat, and the Commission should encourage further development of this proposal as well as potential alternatives to optimize the value of the band.

III. Conclusion

The initial comments have identified several promising paths for development, and the Commission should move promptly to facilitate further progress. TIA looks forward to working with the Commission on these issues as this proceeding advances to subsequent stages.

Respectfully submitted,

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¹⁵ [Comments of the Telecommunications Industry Association](#), filed Oct. 2, 2017 in GN Docket No. 17-183, at 4 (citing NOI ¶ 41).

¹⁶ [Joint Comments of Intelsat License LLC and Intel Corporation](#), filed Oct. 2, 2017 in GN Docket No. 17-183, at 6-9.